

60LT1094-9
(GP2-0267-D2)

REMARKS

Claim Amendments

In Claim 13, support for the number average molecular weight limitation on the poly(phenylene ether) may be found in paragraph [0026] of the specification as filed.

Otherwise, all claim amendments are for the purpose of rewriting dependent claims in independent form.

Claim Objections

Claims 4, 6-20 and 22-35 were objected to as being dependent upon a rejected claim, but allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 4, 6-20 and 22-35 have been rewritten in independent form including all of the limitations of the base claim and any intervening claims.

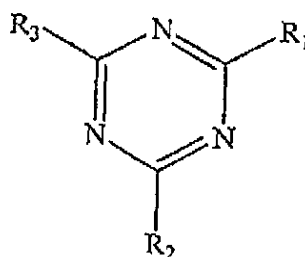
Accordingly, withdrawal of the objections and allowance of Claims 4, 6-20 and 22-35 is respectfully requested.

Claim Rejections Under 35 U.S.C. § 103(a) over Klinkenberg

In a first rejection, Claims 1-3, 5, 21, and 38 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over U.S. Patent No. 4,039,538 to Klinkenberg et al. 10/23/03 Office Action, page 2, paragraph 2. Applicant respectfully traverses this rejection.

U.S. Patent No. 4,039,538 to Klinkenberg et al. (hereinafter "Klinkenberg") generally describes a process for the preparation of tris-(halophenoxy)-1,3,5-triazines of the formula

60LT1094-9
(GP2-0267-D2)



wherein R_1 , R_2 , and R_3 is each a phenoxy substituent having 0-2 alkyl groups, 0-2 halo alkyl groups, and 1-5 halogen atoms. The process comprises contacting cyanuric acid chloride with alkali phenolate of the formulae $R_1\text{Me}$, $R_2\text{Me}$ and $R_3\text{Me}$, wherein Me is alkali metal, in the presence of an alkylene diol monoalkyl ether. Klinkenberg abstract. Klinkenberg states that

the flameproofing agents added in accordance with the invention have a strong flame-inhibiting action in polyesters, i.e., condensation products of diols and dicarboxylic acids, such as polyethylene or polybutylene terephthalates, polyamides, low-pressure and high-pressure polyethylenes, their mixtures with chlorinated polyethylenes or ethylene-vinyl ester copolymers, polypropylene, polystyrene, ternary copolymers or graft polymers such as those of acrylonitrile, butadiene and styrene (ABS) or methacrylic acid, butadiene and styrene (MBS) and other thermoplastics, and also in thermosetting plastics.

(Klinkenberg, column 4, lines 39-50.) There is no mention of epoxy resins, curing agents for epoxy resins, or a cyanate ester.

Applicant respectfully asserts that a prima facie case of obviousness has not been established against Claim 1 because the cited art does not teach all elements of Claim 1. For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a prima facie case of obviousness. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). Establishing a prima facie case of obviousness requires that all elements of the invention be disclosed in the prior art. *In re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970). Applicant's Claim 1 is directed to a curable composition comprising, inter alia, an epoxy resin essentially free of bromine atoms, a curing agent for the epoxy resin, and a cyanate ester. Klinkenberg does not teach any of these components. Klinkenberg therefore fails to teach all elements of Claim 1.

60LT1094-9
(GP2-0267-D2)

Applicant also respectfully disagrees with the Examiner's assertion that it is obvious to add a known ingredient for its known function. 10/23/03 Office Action, page 2, paragraph 3. The cases cited do not support this proposition. Rather, both *In re Lindner*, 173 U.S.P.Q. 356 (C.C.P.A. 1972) and *In re Dial*, 140 U.S.P.Q. 244 (C.C.P.A. 1964) support a different proposition: that it is prima facie obvious to combine two compositions, each of which is taught by the prior art to be useful for the same purpose in order to form a third composition that is also used for that purpose, especially where the prior art generally suggested the desirability of combinations. *In re Lindner* at 357 (affirming the obviousness rejection of a combination of prior art dispersants for water-insoluble biocides); *In re Dial* at 244 (affirming the obviousness rejection of a combination of four prior art stabilizers for halogenated hydrocarbon cleaning solvents). These cases might have been applicable if Applicant were trying to claim a combination of art-known flame retardants. He is not. The examiner has thus failed to offer support for the suggestion that it is generally prima facie obvious to add a known ingredient for its known function.

For all of the above reasons, a prima facie case of obviousness has not been established against Applicant's Claim 1, and Claim 1 is therefore patentable over Klinkenberg. Given that Claims 2, 3, 5, 21, and 38 each include or further limit all of the limitations of Claim 1, they, too, are patentable over Klinkenberg.

In a second rejection, Claims 1 and 4 stand rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Klinkenberg. 10/23/03 Office Action, page 2, paragraph 4. Applicant respectfully traverses this rejection.

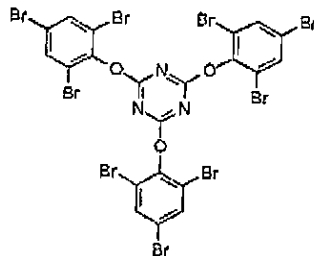
As discussed above, Klinkenberg cannot support a prima facie case of obviousness against Claim 1 for reasons including Klinkenberg's failure to teach all elements of Claim 1. No comments associated with the second rejection change that conclusion. As Claim 4 depends from and further limits Claim 1, it, too, is patentable over Klinkenberg. Claim 4 is further patentable over Klinkenberg because Klinkenberg fails to teach or suggest the Claim 4 flame retardant.

60LT1094-9
(GP2-0267-D2)

The Examiner seems to suggest that Claim 4 is obvious because Klinkenberg teaches the Claim 3 flame retardant, and because the Claim 4 flame retardant allegedly has a similar structure to the Claim 3 flame retardant. 10/23/03 Office Action, pages 2-3, paragraph 5. Specifically, the Examiner has cited *In re Gyurik*, 596 F.2d 1012, 201 U.S.P.Q. 552 (C.C.P.A. 1979), for the proposition that "it is obvious that compounds with similar structures will have similar properties." 10/23/03 Office Action, page 3, paragraph 5.

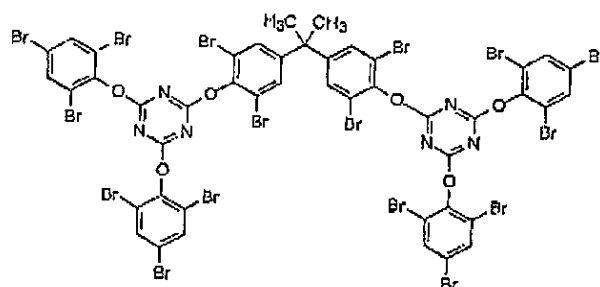
First, the case law cited by the Examiner is inapposite to the rejection. *In re Gyurik* stands for the proposition that "[n]o common-properties presumption rises from the mere occurrence of a claimed compound at an intermediate point in a conventional reaction yielding a specifically named prior art compound." *In re Gyurik*, 596 F.2d 1012, 1018. The rejection of Claims 1 and 4 does not involve an issue of intermediate-product relationship between an art compound and a claimed compound. The rejections at issue in *Gyurik* were explicitly not based on structural similarity. *Id.* at 1017. Although the court expressly avoided any judgment on this issue of structural similarity, *Id.* at 1017, it is noteworthy that some of *Gyurik*'s claims to thio-containing (-S-) compounds were ultimately judged to be nonobvious over references disclosing sulfinyl-containing (-S(O)-) compounds. *Id.* at 1018.

Second, even if there were case law to support the broad proposition that it is obvious that compounds with similar structures will have similar properties (a point that Applicant does not concede), Klinkenberg cannot render obvious the flame retardant of Claim 4, because that flame retardant is not structurally similar to the flame retardant of Claim 3. The flame retardant of Claim 3 is 1,3,5-tris(2,4,6-tribromophenoxy)triazine, pictured below.



60LT1094-9
(GP2-0267-D2)

The flame retardant of Claim 4 is 2,2'-[(1-methylethylidene)bis[(2,6-dibromo-4,1-phenylene)oxy]]bis[4,6-bis[(2,4,6-tribromophenyl)oxy]-1,3,5-triazine], pictured below.



Note, particularly, that the two flame retardants vary in molecular weight by about 950 atomic mass units, and that the Claim 4 flame retardant includes a 2,2'-[(1-methylethylidene)bis[(2,6-dibromo-4,1-phenylene)oxy moiety that is unlike any structural element described in Klinkenberg. A presumption of similar properties sometimes arises for structural homologs, i.e., compounds that differ from one another by successive addition of the same chemical moiety. See e.g. *In re Elpern*, 326 F.2d 762, 767 (C.C.P.A. 1964)(stating that the greater the difference in the carbon chain length, the less the presumption of obviousness). However, the flame retardants of Claims 3 and 4 are not homologs. A presumption of similar properties may also sometimes arise for isomers, although isomerism alone is not sufficient to support a prima facie case of obviousness. See e.g. *Ex parte Mowry*, 91 U.S.P.Q. 219, 221 (Bd. Pat. App. 1950). However, the flame retardants of Claims 3 and 4 are not isomers. A presumption of similar properties may also sometimes arise for analogs, such as the substitution of one halogen for another. See e.g. *In re Taborsky*, 502 F.2d 775, 183 U.S.P.Q. 50 (C.C.P.A. 1974)(holding that the substitution of a fluorine atom for a chlorine atom in a salicylanilide compound was not obvious). However, the flame retardants of Claims 3 and 4 are not analogs. In sum, Applicant is aware of no case law supporting a prima facie case of obviousness based on the structural similarity of two compounds as structurally dissimilar as the flame retardants of Claims 3 and 4.

Finally, there is no suggestion in the art of record of a method to produce the flame retardant of Claim 4.

GOLT1094-9
(GP2-0267-D2)

For all of the foregoing reasons, a prima facie case of obviousness based on Klinkenberg has not been established against Claims 1 and 4. Applicant therefore requests the reconsideration and withdrawal of the rejection of Claims 1 and 4 under 35 U.S.C. §103(a) over Klinkenberg.

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicant. Accordingly, reconsideration and allowance is requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 07-0862 maintained by Assignee.

Respectfully submitted,

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